DOCUMENT RESUME

ED 254 307 PS 014 655

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TITLE Child Ecology: Dimensions to Safeguard the Development and Education of Children.
PUB DATE 80
NOTE 12p.; In: Paolini, Edizioni, Ed. La Famiglia Ambiente Naturale Del Bambino. Milan, Centro Internazionale Studi Famigila, 1980.
PUB TYPE Viewpoints (120)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Child Advocacy; Childhood Needs; Early Childhood Education; *Educational Improvement; Educational Objectives; Ethics; *Family (Sociological Unit); Family Environment; Family Influence; *Humanism; Social Development; Social Environment; *Social Planning; *Young Children
IDENTIFIERS *Child Ecology; Human Ecology

ABSTRACT

A human-ecological dimension is needed to safeguard the development of children. This "child ecology" will protect children against alienating forces of modern civilization caused by rapid social, cultural, and technical changes. The human-ecological dimension is a contribution toward regaining an overall framework for human self-interpretation and development. A responsible child policy cannot have its foundation in fragmented social strategies, be concerned with partial educational programs, or be subjected to changing politics. It has to allow for an integrated approach and longitudinal consequences. Children who suffer physical and psychological impairments become burdens on society. However, the costs for deficit compensation could be limited by considering family, social, and political factors (which have greater effects on educational attainment than curricula, school organization, and teacher training) and by recognizing discontinuities and bimodal dispositions during a child's development. In order to create a more humanized environment: (1) the family should be valued and supported; (2) prospective parents should be educated, and social institutions should give more support to young families; (3) bimodalities and discontinuities in child development should be taken into account in education; (4) integrated but decentralized social and educational policies should be developed; and (5) the principles of child ecology should be endorsed in early childhood education. (CB)

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Klaus Schleicher

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CHILD ECOLOGY

Dimensions to safeguard the development and education of children

A new orientational dimension is needed to safeguard the development of children in the presence of quick environmental and social changes:

– since man has no instinctive sense to select an adequate "biotop" for life and education (c.f. Tinbergen, N. 1972[5], p. 107).

– since social systems are all the more threatened, the less they support the psycho-physical stability of the individual (Schaefer, H. 1978, pp. 108ff.).

– and since educational concepts are no longer embedded in comprehensive perceptions of mankind (Retter, H. 1979, pp. 135ff).

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I. Success-orientated self-confidence versus the self-threatening experience of man

There is no period in the social, cultural and technological development of man which in any respect compares to the rate of *change after the second world war*. Today economic productivity, world-wide communication and scientific progress are no longer restricted to certain aspects of society but they have become "the dominating factors in all conditions of life" (Schumacher, E.F. 1974, p. 20; c. f. Buchholz, A. 1978, p. 9). On the other hand, the anthropological matrix of man, the social and cultural value patterns and the personal needs and attitudes have not changed to the same extent (Peccei, A. 1979).

Thus, there will be ever increasing dichotomies between

1. *man's fascination by*, and reliance on the means of civilization;
2. *the ecological reperclussions* of partial and biased achievements in the scientific, economic and technological domain,
3. *human frustrations* as well as fears due to the undigestable dynamics of his environment and the lack of control over future developments (Schleicher, K. 1975, p. 364).

Within the last five years these dichotomies provoked an expanding awareness that societies are not only dependent on hard-ware productions and social structures (Kahn, H. 1975) but that they have also to safeguard the human being against alienating and functional forces of modern civilization. Such safeguards are necessary, because the "cult of normalcy", the "cult of productivity" and the "cult of living standard" lead to mass delusion, social erosion and individual weariness of culture. In order to preserve a moral sense of <humanité>, to allow for a decentralized demo-

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cracy and group identity, and to support the personal search for a meaningful life, a critical discussion of one-dimensional materialism, of utilitarianism and >scientificism< seems to be urgent. Furthermore children have to be protected against their overriding influence of these forces. (c.f. Spranger, E. 1969, pp. 129-172, 144-210; Rogers, C.R. 1969; Maslow, A.H. 1959; Habermas, J. 1974, pp. 23-84).

Although a critical analysis and a certain limitation of the >civilizing< forces seems to be desirable, they should be neither neglected nor dismissed. Thus, as far as science, technology and social planning are concerned, the following discrepancies have to be considered:

– *Science* is based on convergent, logical interpretations, while life and education involve divergent exposures and contradictions. In addition, science can certainly offer detailed knowledge on psychic traits and it can discuss value-systems, but it can neither produce wisdom (and ethics) nor give meaning to human life (Schleicher, K. 1975; Bronfenbrenner, U. 1974).

= To what extent can scientific curricula really educate? etc.

– Furthermore *economic productivity* and technological means certainly facilitate the human survival in overpopulated urban societies. But simultaneously they penetrate all aspects of life to such an extent, that they tend to subordinate all meta-technical and meta-economic dimensions of human life to its own structures (Luckmann, Th. 1972, p. 195).

= Does it really help children, if education is primarily geared towards functional capacities of adults? etc.

– Finally, *social and educational policy* obviously provide security against psycho-physical risks and all kinds of stimulation for intellectual development, but coincidently they restrict social initiative, and prevent charitable attitudes as well as individual self-responsibility (c. f. Hanf, Th. et al. 1975)

= Could children primarily be regarded as a future investment of society, and should the family be subordinated to social planning? etc.

So, the success of science, economy and social planning permits the survival of industrialized societies through the development of complex social structures, but it confronts these societies at the same time with *manifold ecological crises*, in terms of pollution *of the natural environment*, social breakdowns in inner-cities *or human deformations* by thalidomides or partially misleading educational theories.

Therefore Copernicus' criticism of his contemporary astronomers applies to todays self-interpretation of man as well as to the education of children when he writes:

Those who have devised the eccentric systems, though they might have calculated some constellations according to their assumptions, have not been «able thereby to discern or deduce the principle thing – namely the shape of the universe and the unchangeable symmetry of its parts. With them it is as though an artist were to gather the hands, feet, head and other members for his images from diverse models, each part excellently drawn, but not related to a single body, and since they in no way match each other, the result would be a monster rather than man. So in the course of their position, which the mathematicians call their system... we find that they have either omitted some indispensable details or introduced something foreign and wholly irrelevant» (Copernicus, N. 1959, pp. 138ff).

II. The necessity of human-ecology and its meaning for the education of children

Initially ecological problems were exclusively understood as a menace to the physical environment of man (e.g. pollution, scarcity of natural resources, etc.) (Stamp, D. 1974[2]; Huxley, J.S. 1956). Meanwhile it has become evident that *man* is *a producer as well as a product of ecological crises* (Meadows, D.H. et al. 1972), because his >outer< and >inner< world are closely interrelated. In addition the thread to the ecological basis of man is gaining significance since he not only produces his future environment in terms of civilization but because the future is not only at disposal by military and biological means, but also via longterm effects of socialising patterns (e.g. of families and class structures) or via early experiences (e.g. in terms of linguistic codes and value orientations) (Bronfenbrenner, N. 1976). – Perhaps man really should pay more attention to the biblical message, that our spirit will persecute us onto the third and fourth generation.

The self-threatening development of modern societies can certainly not be called off although it may be reduced. Even a decrease of societal problems has to cope with considerable difficulties, because *human-ecological crises can hardly been kept under control by technological, scientific or educational means and concepts which are the source of nowadays malformations. Instead, a redefinition of societal and educational values is needed.*

In order to transvaluate man's self-interpretation human-ecology can give fundamental help to a public awareness:

– not to reduce the human being to the pretensions of technology and economy (c. f. the meaning of work in Buddhism (Schumacher, E.F. 1974, pp. 83ff);

- not to put up science as a standard for human life and for the functioning of the family (Mollenhauer, K. 1978);

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– to limit the burden of rapidly changing educational policies, strategies and fads (Schleicher, K. 1976, pp. 243-277; 1977a, pp. 79-95);
– to define the limits of children's psycho-physical coping capacities which can only be transgressed at a price of high human and social costs;
– to meet current problems with an anticipation of their future implications.

In order to specify >tolerance limits< for a sound psycho-physical and social development of children, *human ecology has to be based on the criteria of > humanité<*. Here it may start from the consensus that the existence of man has "value as such" irrespectively of one's inclination for the Hippocratic oath for Christianity, for existentialism, or Marxism. In addition there is a certain consensus what is needed for human self-realization. Man can only exist in duals and groups, his development requires education, he is anthropologically open for alternatives and he politically needs cooperation; furthermore he can take moral responsibility and will only be human with meta-physical and/or religious experiences.

From these interrelated statements it may be concluded

– that children and even embryos are human beings from the very beginning and are not just becoming human beings (c. f. Blechschmidt, E. 1973; 1970, pp. 109, 133);
– that man can only experience his humaneness as an entity of body, soul, and spirit (it may be discernible by attributes of laughing, thinking and praying or by his consciousness of death which differentiates him from primates);
– that human society will not recognize itself as being humane unless it allows the individual: to search for the meaning of life (Kaltenbrunner, G.K. 1972), to experience a certain amount of self - and joint responsibility, and to reflect principles of mankind beyond the social system.

Therefore, human-ecology is strongly based on value orientations. *It encourages a search for meaningfulness, it cares for the overall laws of the eco-system* (c. f. Studiengruppe für Biologie und Unterricht, 1976, pp. 21ff), and *it indicates the significance* of a global *human identity*. A human ecology will be the more important, the more societies follow hedonistic and materialistic goals, and the more they encourage abortion, drive youngsters into segregation, isolate and institutionalize children and handicapped people, and neglect the old.

Altogether the human-ecological dimension has to be perceived as a contribution to regain an *overall framework for human self-interpretation and development* – a framework which existed in archaic societies in terms of >mythodologies<, in Greek philosophy in terms of >ideas<, in Christianity in terms of >the life to come< during the Age of Enlightenment in terms of an implicit belief in rationality, in Realism as an orientation towards the world of things, and in Experimentalism as an orientation towards all forms of experience (c. f. Morris, C.v. 1961). Because a generally accepted framework is missing, social policy is left to ideologies and to the politics of the day, and education hardly knows any more what kind of goals (other than functional one's) to aim at (Retter, H. 1979).

Thus, human ecology may help to develop an *ethical consensus* not in terms of a positive utopia but through:

– a reintegration of man in the unity of nature;
– an encirclement of negative environmental as well as educational influences;
– and an ethic for a "humane" survival.

Altogether a new post-conventional dimension of ethics is needed because a >negative pluralism< is not conducive to develop societal and educational norms (as compared to the ideal of socialist man) and because the means of psychic conditioning and manipulation may easily be used to adjust man to a greatly dehumanised environment. For, if ethics is regarded as «the sine qua non for the maintenance of human society, whose subject, man, should be conscious of his freedom» (Rohrmoser, G. 1974², S. 47), and if man – as a result of his integration in nature – becomes aware of his disposition for self-destruction, then the ecological dimension could be the basis of a new attitude towards man's external and internal environments.

III. Some reference points for a changing >child policy<

(Impairments of children as a burden to society – Consideration of family, social and political longterm consequences in education – The importance of qualitative changes in child development)

Gradually it becomes more and more accepted that a responsible *>child policy<* cannot have its foundation in fragmentated social strategies (it may be health, welfare or educational concepts) with their particular problems (as e.g. paid leave for pregnant mothers or schooling for five-year-olds) nor can it be concerned with partial education programs (as e.g. reading - and new maths curricula) and especially it should not be subjected to the politics of the day, but has to care for an *integrated approach* and *longitudinal consequences* (Sandgren, B. 1977; Rein, M. et al. 1977; Schleicher, K. 1978, pp. 275ff). The need for such a >child policy< is obvious, if one pays attention to the impairments of children's personality which nowadays effect more and even younger children than before.

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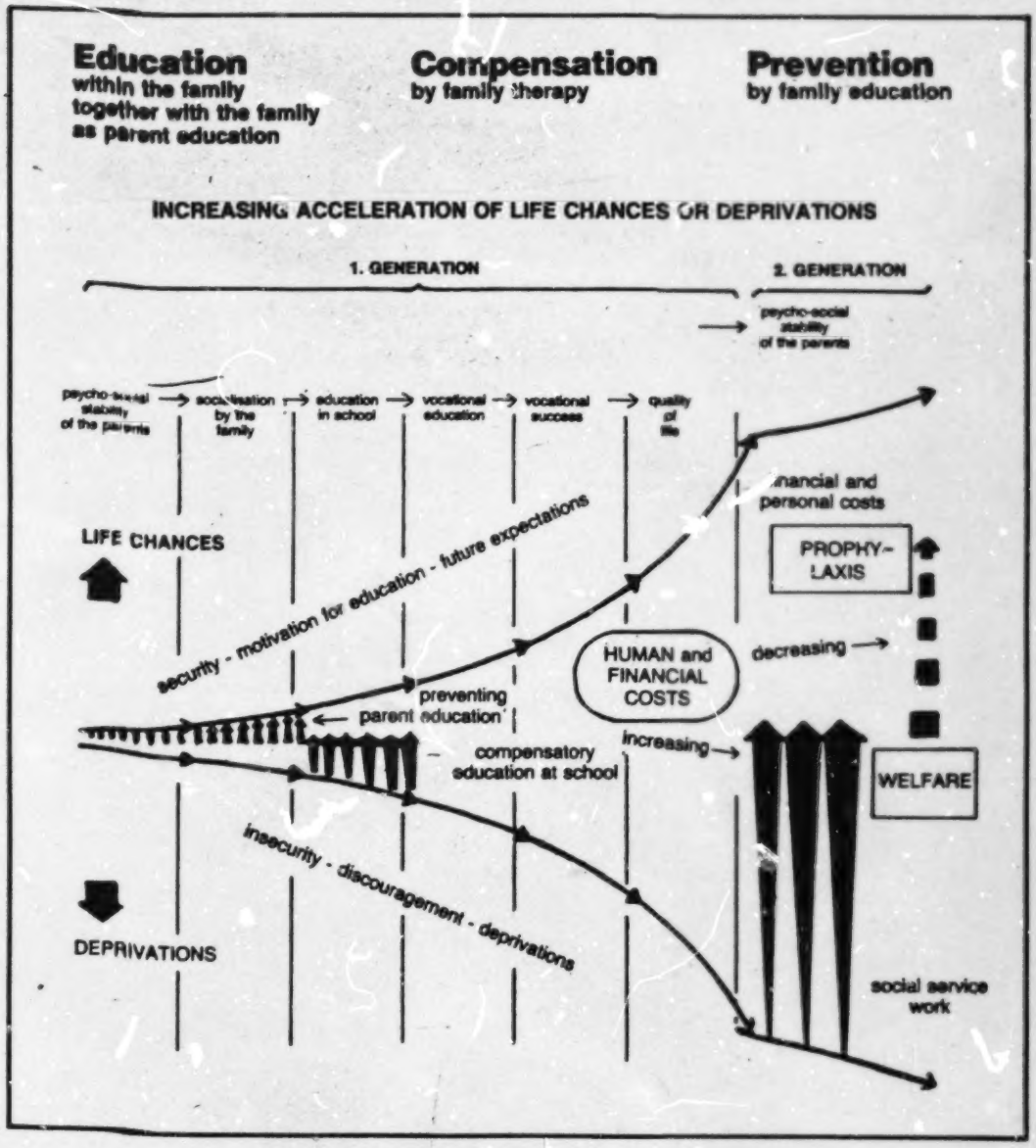
1. Impairments of children as a burden to society:

The *acceleration of the deprivation of life chances* will easily be seen from a flow-chart, which demonstrates, why it is difficult to break the vicious circle of inequality.



What kind and what alarming proportions of deprivation have to be taken into consideration, will be evident from a few data:

– There are born 35,000 to 42,000 severely handicapped children each year in the Federal Republik of Germany (Klee, E. 1974, pp. 25ff.);

– almost 20% of the children of primary school age would need some special treatment because of their deviating behaviour in Denmark and the F.R.G. (Johnson, G. et al. 1964², pp. 63ff.; Thalmann, H.C. 1971, pp. 69ff.; Sameroff, A.S. et al. 1975, pp. 188, 190ff.);

– furthermore, learning motivation decreased and school problems increased in Sweden and the F.R.G. over the last years (Husen, T. 1974, pp. 300ff.; Lempp, R. 1975, pp. 180ff.);

– and finally emotional disturbances particularly of rural children have been accelerated by children's consumption of media, especially of television (Sturm, H. 1972; Schleicher, K. 1978, pp. 14ff; Winn, M. 1979).

Thus, we have to recognize that *more and more children are faced with impairments* and that a

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tremendous amount of the *children's psycho-physical energy is used up* before they have finished the first years of schooling. Therefore, education will fail, if it reacts on psychological lability, missing motivation and insufficient self-realization with pedagogical overstimulation, functional training or curricularized learning steps. Instead the need for immediate rednfulness has to be taken into consideration and psycho-physical tolerance limits have to be calculated which can only be surpassed to the disadvantage of children and – in the long run – to the disadvantage of society.

2. Consideration of family, social, and political long-term consequences in education:

If one takes into account the enormous investments in educational research and the expansion of educational systems on the one hand and considers the relatively small contribution of the school to equality of opportunity and the limited prognostic validity of examinations and tests on the other, one may be surprised by the self-confidence of many self-righteous reformers, because in educational research and policy the long-term *results and side-effects have hardly been calculated* and rarely been explored adequately. (Bronfenbrenner, U. 1974). Particularly it is surprising that the importance of longitudinal studies is almost completely neglected in Europe (except perhaps in Great Britain) and that rarely someone is called to account for educational fiascos.

As far as the *longitudinal or cross-national studies* are concerned educational policy really should be more aware and better prepared to incorporate the results of recent research, as for example (c. f. Wall, W.D. et al. 1970):

– There are important interrelations between the physical development and intellectual processes of children (e.g. the relation between the child's capacity to see and his motor coordination or between the distribution of almost 60% of the annual body growth in spring and the phenomenon of learning tiredness at a time, when usually examinations have to be passed. (Jones, H.E. 1949, p. 90; Lievegoed, B.C. 1976).

– Also there are important findings which prove that illegitimate children are not only extremely endangered at birth, but that they generally have to overcome more risks and difficulties than adopted children (Seglow, J. et al. 1972; Crellin, E. et al. 1971).

– Furthermore the fact is generally overlooked that differently accentuated curricula (they may be directed towards cognitive, affective or social learning) do not develop the overall intellectual capacities and the formation of personality in a particular way, but that the interrelation between educators and children is the most influential factor for learning (c. f. the results of Planned Variation, c. f. Smith, M.S. 1973; Schleicher, K. 1977a, pp. 79ff.)

– Finally, the school success of children (at the age of 11 and 14 years) is less effected by the training of teachers or the equipment of schools than by family background (these results are valid for developed as well as for developing countries and for mathematics as well as for civics). (Kifer, E. 1975, pp. 4,13; Postlethwaite, N.T. 1974, pp. 42ff.).

So, if one bears in mind that there are some long-term effects which are far more important than curricula, school organisations and the training of teachers, and if one remembers children's tests and examinations have little prognostic value as far as their future development is concerned, then, one can hardly be surprised that educational policy had only limited success so far. Therefore educational reforms have to be reconsidered in terms of the >ecology of the child<.

3. The importance of qualitative changes in child development:

Until now, *child development has primarily been regarded as a process of continuous growth.* (Clarke, A.M. et al. 1976 pp. 3ff.). To a large extent *this* perspective has indirectly and directly been influenced by world *outlooks* (e.g. the protestant concept of moral development), by methods of measurement (e.g. statistical instruments) and by various scientific paradigms (e.g. Darwinism, biological determinism or medical observations).

Within those concepts either childhood was regarded as an incomplete stage of adulthood or the development of the human being was interpreted as a continuous unfolding on behalf of innert determinants.

In the meantime, however, it became obvious for example:

– that genes do not determine the development of the human being, but that they are centers, which respond to environmental stimuli (Blechschmidt, E. 1973);

– that extremely important educational as well as existential possibilities of – or for – change are overlooked, if the central focus lies on criteria of normalcy (Benne, K.D. 1969);

– that results of retrospective analysis of social and emotional disturbances of adults (which tend to point to causal effects in early childhood) have little prognostic value if applied to other samples (Sameroff, A.S. et al. 1975, pp. 188 ff., 230 ff.; Sameroff, A.S. 1977).

Because of such findings and on the basis of reflections on the mathematical >catastrophe theory< (e.g. Zeeman, E.C. 1973) and moreover with regard to the history of science (e.g. Kuhn,

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Th.S. 1976[2]) it is necessary to pay more attention to marginal periods of change, to discontinuities and to bi-modalities in the development of children. For, such an approach helps to understand the so called contradictions and inconsistancies in child development.

In a child's life discontinuities come to pass in the physical, psychic and behavioral development, as for example:

– a physical discontinuity happens at the time of birth, when a child starts breathing, or later on, when the body or certain body parts grow at an accelerated speed (it may be in spring each year or in some developmental period). (Jones, H.E. 1949);

– a psychic discontinuity occurs, when the babies' fear of separation increases until the 18th month, but disappears rather quickly thereafter (Kagan, J. 1976, pp. 187,189);

– a social discontinuity occurs, when a child suddenly starts to say "I" at about the age three.

As import at as such discontinuities are probably a child's bi-modal dispositions for education – even if they are difficult to observe. Here one may remember that children quite often behave antagonistically in one and the same situation, or that their attitudes may change from fearful retreat to aggressiveness within a few seconds, although stimuli from the outside are perceptable. While Piaget and Kohlberg tend to explain these inhomogenities as indicators for the child's advancement from one developmental stage to another, Tinbergen and Zeeman discuss these bi-modalities in a more fundamental way as competing attitudes which exist at the same time. (Lorenz, K. 1973[3] pp. 291, 296, 299; Tinbergen, N. 1972[5], pp. 104ff.).

How then *can a child be guided or educated* in an appropriate way, *if neither discontinuities nor bi-modalities are* researched or *considered* by teachers in any way at all?

Altogether *child policy could gain some new reference points* if it were ready to consider to a greater extent:

– the psycho-physical stress and overburdening strain to young children,

– the qualitative changes and bi-modal dispositions in child development,

– and the long-term influences and side effects of environmental and parental factors on children.

IV. Assignments and possibilities to create a more humanized environment for children and to guide child development

(Importance of the family for the personal development of children – preventive measures to safeguard influences on and parental attitudes towards children – need to observe and consider bi-modal dispositions and discontinuous development of children).

If one favours a child policy which follows a value orientation in a human ecological way, then this policy should specifically be aware of the >ontogenesis< of the human being and the current thread to it. Therefore it should be geared towards the promotion of personal identity, open mindedness, humane values in education, and it should attempt to guarantee an ecological balance in the environment of children.

1. The importance of the family for the personal development of children:

Research demonstrates that the family has the strongest long-term influence on child development.

– *Habits and attitudes of parents* affect e.g. the dispositions of their children, even before they are conceived (e.g. through the smoking of fathers, the undernourishment of mothers or negative attitudes towards pregnancy) (c.f. Stott, L.H. 1970, pp. 18f; Birch, H.G. et al. 1970, pp. 16, 64).

– In addition, *the absence of a continuous intimate and personal care* in the early weeks and years impairs a healthy psycho-physical and social development of children (as is well known from hospitalism, from the developmental quotient and from early language patterns). (Bowlby, J. 1972a, b).

– And finally *basic value patterns, political attitudes, levels of aspiration and school achievement patterns are engraved* by the family until the age of puberty (e.g. the family background is even more influential for the children's school performance in civics, foreign language learning and mathematics than the school itself) (Postlethwaite, N.T. 1975; Noonan, R. et al. 1976, p. 36; Torney, J.V. et al. 1975, pp. 133f., 140f.; Hyman, H.H. 1959, pp. 58f.).

But the family has not only a stronger impact on child development than our articulate education system and our social institutions, furthermore, it has to be regarded as the natural ecological environment of the children. Generally *the family's multidimensional and intimate setting cannot be substituted in our mobile and anonymous as well as rationalized and dissected society*, because:

– the family gives personal, social and juridical identity,

– it offers the most holistic, concrete and continuous field of experience and action,

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– it leaves room for practical problem-solving without tearing apart reality of life,
– and for the most part it provides a balance between needs and their satisfaction (Mollenhauer, K. 1978).

Thus, attempts to humanize the child's environment have to start with family policy. For it is the family which renders possible complex life situations in divergent terms; it does not reduce living to logical, convergent interpretations (as e.g. curricula and science do), and it does not limit life experience to functional aspects (as e.g. economy and social institutions tend to do).

Although the family turns out to be important to the child and thus to the future of societies, it has been taken notice of in quite different ways *since the Second World War*. It may be conspicious that *the institution of the family had been discussed* – if not misused – *for a variety of political reasons*. In Western Europe the family had not only been a subject-matter of party politics but of social policy as well. As far as social policy is concerned one may generalize major trends in the following way:

– In 1945 the family was expected to stabilize the disrupted social order;
– about 1955 it was expected to set mothers free for participation in the labour force;
– about 1960 it had to take the blame for social inequality;
– around 1965 it should not interfere with social and educational planning;
– towards 1970 it was called up to participate in home-school relations and to concentrate on early childhood education;
– and since 1975 mothers are more and more expected to stay home in order to give better care to young children and to reduce the rate of unemployment.

With regard to these short-term politics >with< the family one wonders which family policy was really conceptualized in favour of the family and of the child.

But there is another way in which the *family is turned into a vehicle of social policy*. While all Western societies expect the family to give love and security to the child, to develop attitudes of fairness, helpfulness and responsibility and to offer a model for life in a democratic and cooperative partnership, these societies themselves are dominated by individual as well as group interests, by forces of composition and hierarchical structures (Schleicher, K. 1979).

However, the families are not only expected to serve social values which are contradicted by society, but they are also blamed if behavior patterns of social reality infiltrate and even dominate family life. Because, if societal norms override those expected from the family there have to be increasing divorce rates, neglect of children and an subordination of family education to school achievement training.

So, *there is no way to humanize the child's environment*
– unless the undue subordination of the family to economic and political short-term interests is terminated;
– unless the fundamental social experience and non-functional education of the family are revalorized and revived;
– unless the family is recognized as an unreplacable and most important factor of the child's ecology;
– and unless societies come to terms with their own destructive value patterns and unsocial structures.

Altogether societies should be more aware that a stronger support of a self-directed family is in their own long-term interest.

2. Preventive measures to safeguard influences on – and parental attitudes towards – children:

In order to reduce unfavourable influences on the development of the child it is essential to *pay more attention to parental attitudes before pregnancy and to a cooperation between the young family and social as well as educational institutions.* With respect to the personal stability of the child, it already appears to be essential:

– to give youngsters a better understanding of and wider experience with younger children and to replace sex education by family education (c.f. Council of Europe, CMF, 77, XV, 5+7; Elfas-Projekt 1977);
– to encourage young families to demand home-delivery (as in Holland) and rooming in possibilities (as in Britain), to offer them a prolonged paid puerperal leave (as in East Germany), and to give the young family (either husband or wife) an opportunity for reduced working time in conjunction with educational guidance (until the children are about three years of age);
– to convert day-care-centers into half-day institutions wherever possible and to improve the staff qualifications considerably;
– and to offer children more holistic learning and living environments for the development of an integrated personality (as e.g. in play-groups and decentralized Kindergartens) and to reduce their second hand experiences through television (because they need deep continuous feelings, social

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contacts and their own phantasy instead of pseudo-reality and televised stereotypes) (Schleicher, K. 1980).

Thus, *preventive measures in favour of the child* should aim at better guided and coordinated efforts within the families and between families and social institutions. In addition family policy should be more aware of long-term consequences of parental emancipation, of the single-child and single-parent family and of the generation gap between parents and youngsters. Above all it has to concentrate on the public as well as institutional impairments towards the willingness and capacity of families to have children, to care for children and to educate them as responsible human beings.

For all these fields of activity a human ecological interpretation of the family might help as a basic guideline.

3. The need to observe and consider bi-modal dispositions and discontinuities in child development:

Educators and families have to pay more attention to bi-modal dispositions and discontinuous development of children, if they intend: *to support an integrated child policy, to limit environmental impairments* to the children, *and to work for a personal stability of the children* (Sameroff, A.S. 1977, pp. 24ff); Isnard, C.A. et al. 1975). However there exists only limited guidance in this field. On the one hand reality cannot be interpreted in one-dimensional ways (since there is always an underlying dialectic between cause and effect, and between goals and means) and research data are only socially and scientifically produced "replica" of reality. On the other hand the social sciences (neither of the marxist nor of the neo-liberalistic approach) have not really produced a reliable *theory to predict or control transformations of personality or ecological processes*, whether they may be of environmental, social or educational origin (e.g. Park, R.D. et al. 1975, p. 579).

But from a human-ecological point of view it is very *important e.g. to know for educational planning:*

– why and when do behavioral learning difficulties of children disappear (e.g. the separation-fear of babies or identity problems during puberty);

– what are the origins and turning points for rapid change of mood (e.g. from anxiety to aggressiveness or from learning motivation to school failure) as they are observed in etiology and in educational research (Holst, E.v. 1969, pp. 224f; Lorenz, K. 1973², p. 311; Husen, T. et al. 1974, p. 300);

– by which alternative attitudes and behaviour-elements is a child influenced at a given time and where do they leave room for personal decisions and educational action (e.g. to overcome personal difficulties or to facilitate a transfer of learning from subject to subject or from school to life);

– and why does the effect of compensatory as well as preschool curricula tend to diminish after the first years of schooling and why is the personality of the educators more important than the curricula concepts as such.

Altogether it is at stake: *If bi-modalities and discontinuities and qualitative changes are not properly taken into account in the educational process*, and if education is primarily understood as a process of adjustment to normalcy, and if didactics are generally regarded as a transporting mechanism, *then educational possibilities for action are rather enclosed than disclosed.*

Child ecology certainly provokes the question to what extent the child's complexity is met by educational strategies and in which way human inconsistency, the striving for meaningfulness and gradual self-realization is considered in educational practice, educational theory, and educational politics.

4. Political consequences of long-term effects in education:

Besides the need to cut down children's psycho-physical strain e.g. by preventive measures, and to expand strategies of education for qualitative transformations, educational policy has to consider long-term and side-effects of educational and social developments.

Long-term dispositions of children are more often set up in the unborn than the born child, they are established to a larger degree in early childhood than in the child's later life, they are influenced to a greater extent by the family than by institutions, and – within the institutions – they are more strongly exercised by personal contacts than by curricula. Therefore it follows from a human ecological point of view:

– Strategies of *family policy* should have socio-political priority, because 1. the family is the most important source for positive as well as negative impacts on the child, and 2. such strategies could have a strong prophylactic as well as social welfare function.

– Furthermore, *educational policy* should care to the same extent for human ecological values as for organisational structures; it should be concerned with child-educator-relationships and not primarily concentrate on subject competence; it should pay more attention to the individual gene-

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sis of development and the search for meaningfulness than to formal principles of egalité, and above all, it has to limit short-lived educational experiments and fads.

– Finally, there is a strong need for an *integrated but decentralized social and educational policy*, which comes to terms with local differences, is geared towards families, works with adults and children and operates as a compound system. Such compound systems have been recommended by the OECD and CCC (Rein, M. et al. 1977; Sandgren, B. 1977), and they are in operation for more than ten years in the U.S. (In the Appalachian and Rocky Mountains region a coordinated social, health, welfare, and educational compound system links e.g. employment programs with adult education and an integrated support for families, etc.) (c.f. Schleicher, K. 1978, pp. 281ff).

Altogether, neither educational nor social strategies will achieve a *humanization of the child's environment and his education*

– unless societies recognize the *human ecological importance of the family* for the child and for the long-term interest of the society;

– unless the welfare attitude of public assistance for the disadvantaged and sick is strongly supplemented by *preventive guidance and support* for parents and children;

– unless fragmented *social and educational programs are coordinated* to serve families in their environmental context;

– and unless there is a *new orientation* in early childhood education, which cares for the child's developmental genesis, for his capacity to master himself in his environment and which has not only propaedeutic function.

V. Child ecology - an endorsement of dimensions to safeguard child development

In early child education there is a widespread *uncertainity what goals should be pursued:* because the continuous change in value and perception systems complicates man's search for a self-concept, and because the rate of environmental and social change goes beyond his capacity to guide it in view of his own humane needs. Therefore, early childhood education has so far mainly been concerned with social problems, functional concepts and technological hardware.

But, since it became increasingly evident that isolated stimuli, specialized programs and organizational reforms did not come up with expected long-term effects and had some undesirable side-effects, more *attention* was paid *to the ecology of socialisation* (Bronfenbrenner, U. 1976), if not *to human ecology* (Schleicher, K. 1975; Garbarino, J. 1977).

Human ecology helps to explain why ecological crises cannot adequately be mastered by those >scientific< and technological paradigms and structural concepts which have produced them. Instead *a different attitude of man to himself as a human being is needed*, because:

1. Environmental and educational crises are unavoidable until a meta-economic and meta->scientific< interpretation of >humanité< is accepted.
2. Educational concepts can neither be developed in an adequate way for age-groups nor for different tasks unless they care for the whole human development from conception to death.
3. The "Year of the Child" can only be successful as a "Year of the Family" and the "Year of the Family" can only be based on a "Year of >Humanité<".

Therefore the dimensions of child ecology may offer a chance for man to live up to a responsible self-image in >humanité<.

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